

**REMARKS**

Claims 1, 3-28, 30, and 31 are pending. Claims 1, 3, 6-8, 21, 23, 24, 26, 28, 30 and 31 stand rejected, claims 4, 5, 9-14, and 22 stand objected to, and claims 15-20, 25, and 27 stand allowed. By virtue of this response, no claims have been cancelled or added, and claims 1, 15, and 21 have been amended to broaden a feature of the claims. Accordingly, claims 1, 3-28, 30, and 31 are currently under consideration. Support for the amendment to claims 1, 15, and 21 may be found throughout the present application; accordingly, no new matter has been added. Cancellation and amendment of certain claims is not to be construed as a dedication or abandonment of any unclaimed subject matter by Applicants, and moreover Applicants have not acquiesced to any rejections and/or objections made by the Patent Office. Applicants explicitly reserve the right to pursue prosecution of any subject matter in continuation and/or divisional applications.

For the Examiner's convenience, Applicants' remarks are presented in the same order in which they were raised in the Office Action.

**Drawings**

The Office Action requires new corrected drawings in compliance with 37 CFR 1.121(d). Submitted herewith are new formal drawings. No substantive changes have been made to the drawings as originally filed.

**Claim Rejections under 35 USC §102**

A. Claims 21, 23, and 30-31 stand rejected under 35 U.S.C. 102(b) as being anticipated by Leonhardt et al.; U.S. Patent No. 6,084,740 (hereinafter "Leonhardt").

Applicants respectfully traverse the rejection and submit that Leonhardt does not disclose or suggest a method of positioning a selected recording channel on a recording head relative to an optical servo system as recited in claim 21. In particular, claim 21 recites a method for positioning a selected recording channel to an optical servo system, the method including "processing an alignment tape...to determine a lateral offset between the optical servo system and

the selected recording channel, wherein the alignment tape includes a track of longitudinally arranged alignment void tracks; and positioning the optical servo system at a second position relative to the selected recording channel using the lateral offset.” Such a method is not disclosed or suggested by Leonhardt.

In contrast to the recitation of claim 21, Leonhardt discloses an optical servo system that operates with a conventional data tape that has data tracks written on a recording side (first side) of the tape and optical servo tracks formed on the back side (second side) of the tape. (Leonhardt: col. 4, lines 11-23; col. 4, lines 41-47). The “optical servo system reads the servo tracks on the second side of the tape and optical features on the read/write head to determine the alignment between a read/write head with data tracks on the first side of the magnetic tape.” (Leonhardt: col. 4, lines 14-18; emphasis added). Accordingly, Leonhardt discloses a method for aligning a read/write head with data tracks based on an optical servo system reading servo tracks on the tape, but does not disclose or suggest a method for positioning a selected recording channel relative to an optical servo system as recited by claim 21. For example, Leonhardt does not disclose processing an alignment tape with the optical servo system at a first position relative to the recording channel and positioning the optical servo system at a second position relative to the recording channel using a determined lateral offset of the optical servo system to the recording channel.

Further, the Examiner states that Leonhardt discloses “moving the head across the tracks in motion perpendicular to a motion of the alignment tape (see col. 5, lines 1-10 and figure 1, items 605 and 611)....” Applicants submit, however, that the Examiner is ignoring that the claim feature of “moving the recording head across the tracks in a motion perpendicular to a motion of the alignment tape” is part of the processing feature of claim 21, wherein processing includes “processing an alignment tape in the read/write assembly to determine a lateral offset...” The portion of Leonhardt cited by the Examiner discloses aligning the head position based on the “current head position alignment with the drive processor’s requested position from step 901...to move the read/write head 605 in the direction needed to align the movable read/write head 605 with the data tracks at step 908.” (Leonhardt col. 5, lines 1-11). Thus, Leonhardt discloses moving the read/write head 605 in response to a determined offset, but not for the purpose of determining the

offset, as recited by claim 21. Accordingly, Leonhardt fails to disclose or suggest processing an alignment tape to determine a lateral offset, wherein processing includes “moving the recording head across the tracks in a motion perpendicular to a motion of the alignment tape,” as recited by claim 21, and the rejection should be withdrawn.

Accordingly, for at least these reasons, Leonhardt does not disclose the features of claim 21 and the rejection should be withdrawn. Claim 23 depends from claim 21 and is allowable over Leonhardt for at least similar reasons as claim 21.

Regarding claims 30 and 31, Applicants submit that Leonhardt does not disclose “storing the lateral offset,” as recited by claim 30. The Examiner references col. 6, lines 45-50 of Leonhardt (“machine calibration”) in support of the rejection. Applicants respectively disagree and submit that Leonhardt fails to disclose or suggest determining a lateral offset between the optical servo system and the selected recording channel and storing the lateral offset. Leonhardt discloses merely a method for “utilizing all the data in an image subset” by using a “correlation algorithm where an image subset is compared to a reference signal stored in memory.” (col. 6, lines 40-49). There is no indication or suggestion that the “reference signal” is a stored lateral offset between the optical servo system and the selected recording channel. Accordingly, Applicants submit that Leonhardt fails to disclose or suggest the features of claims 30 and 31, and the rejection should be withdrawn.

B. Claim 28 stands rejected under 35 U.S.C. 102(e) as being anticipated by Lubratt; U.S. Patent No. 6,433,951 (hereinafter “Lubratt”).

Applicants respectfully traverse the rejection and submit that Lubratt does not disclose or suggest the features of claim 28. In particular, Lubratt does not disclose or suggest an alignment tape for positioning a selected recording channel of a recording head relative to an optical servo system wherein the alignment tape includes a “a magnetic storage medium formed on the front major surface...[and] the track of alignment voids is formed by ablation by a pulsating laser beam of sufficient power to penetrate the back major surface through to the front major surface leaving visible the flexible plastic substrate of the alignment tape.” In contrast, Lubratt discloses etched

regions 22a, 22b formed in magnetic coating 20 on the substrate 12. (Lubratt: col. 3, lines 61-62; FIGS. 1-3). Thus, Lubratt discloses etched regions 22a and 22b formed from the side of the tape including magnetic coating 20 such that etched regions 22a and 22b are therefore not formed by laser ablation penetrating the back major surface through to the front major surface as recited by claim 28. Further, etched region 22' of FIG. 3A is not shown penetrating the back major surface through to the front major surface as recited.

Accordingly, Lubratt fails to disclose or suggest the features of claim 28 and the rejection should be withdrawn.

### **Claim Rejections under 35 USC §103**

Claims 1, 3, 6-8, 24, and 26 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Leonhardt and Lubratt. In particular, the Examiner asserts that Leonhardt discloses the features of claim 1 except writing a track of data to the tape over the alignment voids, which is taught by Lubratt. Further, it would have been obvious "to improve upon the tape of Leonhardt et al. by applying the teaching of overwriting voids with a magnetic signal as taught by Lubratt for the purpose of servo positioning by a combination of magnetic and optical servo patterns and reformatting magnetic storage data tapes without specialized equipment."

Applicants respectfully traverse the rejection for at least the following reasons. Initially, Applicants submit that Leonhardt does not disclose or suggest a method of positioning a selected recording channel on a recording head relative to an optical servo system as recited in claim 1. In particular, claim 1 recites a method for positioning a selected recording channel to an optical servo system, the method including "processing an alignment tape...to determine a lateral offset between the optical servo system and the selected recording channel, wherein the alignment tape includes a track of alignment voids...; and positioning the optical servo system at a second position relative to the selected recording channel using the lateral offset." Such a method is not disclosed or suggested by Leonhardt.

In contrast to the features of claim 1, Leonhardt discloses an optical servo system that operates with a conventional data tape that has data tracks written on a recording side (first side) of the tape and optical servo tracks formed on the back side (second side) of the tape. (Leonhardt: col. 4, lines 11-23; col. 4, lines 41-47). The “optical servo system reads the servo tracks on the second side of the tape and optical features on the read/write head to determine the alignment between a read/write head with data tracks on the first side of the magnetic tape.” (Leonhardt: col. 4, lines 14-18; emphasis added). Accordingly, Leonhardt discloses a method for aligning a read/write head with data tracks based on an optical servo system reading servo tracks on the tape and optical features of the head, but does not disclose or suggest a method for positioning a selected recording channel relative to an optical servo system as recited by claim 1. For example, Leonhardt does not disclose processing an alignment tape with the optical servo system at a first position relative to the recording channel and positioning the optical servo system at a second position relative to the recording channel using a determined lateral offset of the optical servo system to the recording channel. The addition of Lubratt fails to cure the deficiencies of Leonhardt, nor is Lubratt alleged to cure the deficiencies in the Office Action. Accordingly, the rejection should be withdrawn.

Additionally, Applicants submit that one skilled in the art would not have been motivated to combine the references as proposed by the Examiner, and the Examiner is engaging in impermissible hindsight analysis. Leonhardt discloses an “optical servo system for a tape drive operating with a tape that has data tracks written on a recording surface (first side) of the tape and optical servo tracks formed on the back side (second side) of the tape.” (Leonhardt: col. 4, lines 11-14). Further, the optical servo system “reads the servo tracks on the second side of the tape and optical features on the read/write head to determine the alignment between a read/write head with data tracks on the first side of the magnetic tape.” (Leonhardt: col. 4, lines 14-18). Accordingly, the optical servo system of Leonhardt is on an opposite side of the read/write head as shown in Fig. 1.

In stark contrast to the disclosure of Leonhardt, Lubratt discloses a magnetic data storage tape having etched regions 22a, 22b formed in magnetic coating 20 to “reduce the magnetic properties of selected areas on the tape to provide electromagnetic modulation after signal overwriting.” (Lubratt: col. 3, lines 61-65; col. 5, lines 36-40). Therefore, one skilled in the art

would not logically look to combine a system (e.g., as disclosed by Lubratt) for writing magnetic data over etched regions in a magnetic coating with a system (e.g., as disclosed by Leonhardt) that operates with a tape having data tracks on a first side and optical servo tracks on the second (or backside) of the tape and where the optical servo system and magnetic read/write head are on opposite sides of the tape. The proposed combination and modification put forth by the Examiner to meet the features of the present claims is clearly hindsight analysis.

Finally, the proposed motivation, e.g., servo positioning by a combination of magnetic and optical servo patterns and reformatting magnetic storage data tapes without specialized equipment, does not suggest the combination and modifications to the references to meet the features of the present claims, and would further change the principle of operation of Leonhardt. MPEP 2143.01. As discussed above Leonhardt discloses an optical servo system that reads “the servo tracks on the second side of the tape and optical features on the read/write head to determine the alignment between a read/write head with data tracks on the first side of the magnetic tape.” (Leonhardt: col. 4, lines 14-18; emphasis added). The proposed combination put forth by the Examiner would alter the operation of Leonhardt, which operates with an optical servo system on an opposite side of a data tape as the read/write head. (Leonhardt: col. 4, lines 11-23; FIG. 1).

Accordingly, for at least these reasons the rejection to claim 1 should be withdrawn. Claims 3, 6-8, 24, and 26 should be allowable over the combination of references for at least similar reasons as claim 1.

#### **Allowable Subject Matter**

Applicants thank the Examiner for indicating that claims 15-20, 25, and 27 are allowed and further that claims 4, 5, 9-14, and 22 stand objected to but would be allowable if amended into independent form including the features of the base claim and any intervening claims.

In view of the arguments herein, Applicants submit that all claims are now in condition for allowance.

**CONCLUSION**

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue. If it is determined that a telephone conference would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.

In the event the U.S. Patent and Trademark office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 03-1952 referencing docket no. 249212014000. However, the Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

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Respectfully submitted,

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Attachments

**AMENDMENTS TO THE DRAWINGS**

The attached sheets of drawings include formal drawings to replace the drawings as filed. No substantive changes to the drawings have been made.

Attachment: Replacement sheets